AMENDMENTS TO THE CLAIMS

This listing of claims replaces all listing and versions of claims in this application.

Listing of Claims:

1. (Original) A substantially chromium-free process for passivating metallic surfaces of Zn, Zn alloys, Al or Al alloys ~~by treating~~ comprising the surface with an acidic aqueous formulation of a polymer comprising –COOH groups and/or salts thereof, wherein the formulation (Z) used for the treatment at least comprises

(a) at least one substantially noncrosslinked, water-soluble polymer or copolymer (A) comprising at least 50% by weight of (meth)acrylic acid units, and

(b) water or an aqueous solvent mixture (B) comprising at least 50% by weight of water,

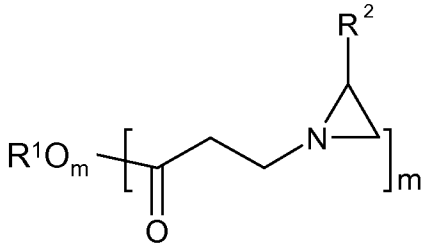
and the surface is further treated with at least one water-soluble crosslinker, the crosslinker comprising at least 2 crosslinking groups selected from the group consisting of azirane, oxirane, and thiirane groups and joined to one another by means of a linking group (X) comprising at least 2 carbon atoms, the number-average molecular weight M_n of the crosslinker being from 112 to 5000 g/mol, the solubility of the crosslinker in water being at least 10 g/l, and the treatment with the crosslinker being carried out before, after or simultaneously with the treatment with the formulation (Z).

2. (Original) The process according to claim 1, wherein the treatment with the crosslinker and with the formulation (Z) is carried out simultaneously and the crosslinker is present in the formulation (Z).

3. (Currently Amended) The process according to claim 1 ~~or 2~~, wherein (Z) further comprises an organic or inorganic acid.

4. (Original) The process according to claim 3, wherein the acid is H_3PO_4 and/or HNO_3.

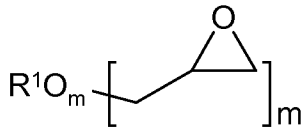
5. (Currently Amended) The process according to ~~any one of claims 1 to 4~~ claim 1, wherein the crosslinker is a crosslinker of the general formula (I)



(I)

which contains at least two azirane groups and where m is a natural number ≥ 2, R^1O_m- is an m-valent, aliphatic alkoxy radical, and R^2 is H or methyl.

6. (Currently Amended) The process according to ~~any one of claims 1 to 4~~ claim 1, wherein the crosslinker is a crosslinker of the general formula (II)



(II)

which contains at least two oxirane groups and where m is a natural number ≥ 2, and R^1O_m- is an m-valent, aliphatic alkoxy radical.

7. (Currently Amended) The process according to claim 5 ~~or 6~~, wherein m is a natural number from 2 to 6.

8. (Currently Amended) The process according to ~~any one of claims 1 to 7~~ claim 1, wherein the water-soluble polymer (P) comprises (meth)acrylic acid.

9. (Currently Amended) The process according to ~~any one of claims 1 to 7~~ claim 1, wherein the water-soluble polymer (P) is a copolymer which in addition to the (meth)acrylic acid units further comprises at least one comonomer which comprises acidic groups but is other than (meth)acrylic acid.

10. (Currently Amended) The process according to ~~any one of claims 1 to 9~~ claim 1, wherein the weight ratio of polymer to crosslinker is from 0.5 : 1 to 50 : 1.

11. (Currently Amended) The process according to ~~any one of claims 1 to 10~~ claim 1, wherein the solvent is water.

12. (Currently Amended) The process according to ~~any one of claims 1 to 11~~ claim 1, wherein subsequently the metal surface is heated after the treatment.

13. (Currently Amended) The process according to ~~any one of claims 1 to 12~~ claim 1, wherein the treatment takes place by means of rolling, spraying or dipping methods.

14. (Currently Amended) The process according to ~~any one of claims 1 to 13~~ claim 1, wherein the metal surface is the surface of a strip metal.

15. (Original) The process according to claim 14, wherein the strip metal is electrolytically galvanized or hot-dip galvanized steel.

16. (Currently Amended) The process according to claim 14 ~~or 15~~, wherein the treatment is carried out by means of a continuous process.

17. (Currently Amended) The process according to ~~any one of claims 14 to 16~~ claim 14, wherein the surface is contacted with the formulation for a time of from 1 to 60 s.

18. (Currently Amended) A passivating layer on a metallic surface of Zn, Zn alloys, Al or Al alloys, obtainable by a process according to ~~any one of claims 1 to 17~~ claim 1.

19. (Original) The passivating layer according to claim 18, whose thickness is from 0.01 to 3 μm.

20. (Currently Amended) A metallic surface comprising a passivating layer according to claim 18 ~~or 19~~.

21. (Original) The metallic surface according to claim 20, wherein atop the passivating layer there are one or more paint layers.

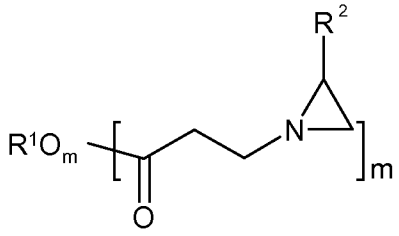
22. (Currently Amended) A strip metal of steel comprising a coating of Zn or a Zn alloy which has a surface according to claim 20 ~~or 21~~.

23. (Original) An acidic, substantially chromium-free formulation for passivating metallic surfaces of Zn, Zn alloys, Al or Al alloys, comprising at least

(a) at least one substantially noncrosslinked, water-soluble polymer or copolymer (A) which comprises at least 50% by weight of (meth)acrylic acid units,

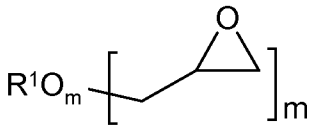
(b) water or an aqueous solvent mixture (B) comprising at least 50% by weight of water, and

(c) at least one water-soluble crosslinker of the general formula



(I)

or



(II)

where m is a natural number from 2 to 6, R^1O_m- is an m-valent alkoxy radical, and R^2 is H or methyl, and the number-average molecular weight M_n of the crosslinker is from 112 to 5000 g/mol, and the solubility of the crosslinker in water is 10 g/l.

24. (Original) The formulation according to claim 23, further comprising H_3PO_4 and/or HNO_3.